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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,830	11/08/2001	Gregory J. McCollum	1704A1	1069

7590 06/08/2005  
PPG Industries, Inc.  
One PPG Place  
Pittsburgh, PA 15272

EXAMINER

MAYEKAR, KISHOR

ART UNIT PAPER NUMBER

1753

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/005,830

Applicant(s)

MCCOLLUM ET AL.

Examiner

Kishor Mayekar

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-22,24-28,30-49 and 57-114 is/are pending in the application.  
4a) Of the above claim(s) 57-114 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,2,4-22,24-28 and 30-49 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 24, 2005 has been entered.

### *Election/Restrictions*

2. Applicant's response to the restriction requirement with traverse in the reply filed on March 24, 2005 is acknowledged. The traversal is on the ground(s) that the inventions of the various groups are no distinct and the effect or the function of each group is to coat a substrate and yield a coating that has improved adhesion properties. This is not found persuasive because, as it is known that in an electrophoretically coating process the process steps of electrophoretically depositing a coated film from a coating composition and curing the coated film are

typical and the novelty is in the use of the coating composition, there are different coating compositions claimed in the inventions, and the record reflects that all of these groups are patentably distinct and have been properly considered.

The requirement is still deemed proper and is therefore made FINAL.

3. This application contains claims 57-114 drawn to an invention nonelected with traverse in the response of March 24, 2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 1, 2, 4-22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-281943A in view of either FAUL et al. (US 5,258,460) or SCHUPP et al. (US 5,096,555), and either Takata et al. (US 4,670,994) or Laver (US 6,197,861 B1). The Japanese reference's invention, a reference cited in the

last Office action, is directed to high weatherability electrodeposited paint composition and coating method. The Japanese reference discloses that the method comprises all the steps as claimed (page [0012] in page 6 of the translation through paragraph [0018] in page 8; paragraph [0067] in page 16 through paragraph [0071] in page 17; paragraph [0038] through [0040] in page 11; and Examples in page 23). The differences between the Japanese reference and the above claims are the reference is silent on the position of the amino groups being pendant from or in the terminal position of the polymeric backbone, the transmission of the cured top coat and the heating in a specified atmosphere.

As to the first difference, FAUL discloses in an electrocoating process that "standard electrocoating baths generally contain polymers with pendant primary, secondary or tertiary amino groups as the principal resin component" (col. 3, lines 45-51). SCHUPP shows in an electrocoating process the use of aminoepoxy resins being the reaction product of epoxy-containing resins having preferably terminal epoxy groups with amino groups and/or hydroxyl groups (col. 3, lines 17-21). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Japanese reference's teachings as suggested by either FAUL or SCHUPP because the

selection of any of known equivalent cationic amine salt-group containing resins would have been within the level of ordinary skill in the art.

As to the second difference, since the reference shows the use of the clear coat, it appears that the Japanese reference's cured top coat would have the recited transmission, in absence of evidence to the contrary.

As to the third difference, Takata shows in a method for heating the atmosphere of a furnace for conducting baking of a coating film on a car body that the volatile components from the coating composition in the coating film react with radicals formed in the combustion products such as  $\text{NO}_x$  producing tar-like substances mainly comprising deposits of low molecular weight resins, which adhere to the surface of the car body, causing undesirable phenomena such as yellowing and inter-layer defoliation of the coating films (col. 1, lines 54-62). Takata also discloses that it is known to use a burner with high air/fuel ration to reduce the formation of the tar-like substances (paragraph crossing cols. 1 and 2). Laver shows it is known that the attack of  $\text{NO}_x$  in the burner gases or ovens on components of paint binders causes formation of yellow breakdown products (col. 1, lines 7-12). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the

Japanese reference's teachings as shown by either Takata or Laver by baking the Takata's coating films in an atmosphere of reduced NO<sub>x</sub> because this would result in less amount of by-products formed from the reaction of NO<sub>x</sub> with the binder.

As to the subject matter of claims 16-19, the selection of any of known equivalent blocking agents would have been within the level of ordinary skill in the art.

2. Claims 26-28 and 30-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '943 in view of either FAUL '460 or SCHUPP '555 and either Takata '994 or Laver '861 for the same reasons as set forth in the preceding paragraph.

3. Claims 25 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '943 in view of either FAUL '460 or SCHUPP '555 and either Takata '994 or Laver '861 as applied to claims 1-22 above, and further in view of ARMSTRONG et al. (5,277,709). The difference between the references as applied above and the instant claim is the provision of a source of yttrium in the coating composition. ARMSTRONG shows the above limitation in an electrocoating process (see

abstract; col. 3, lines 41-46; and col. 6, lines 52-60). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference's teachings as suggested by ARMSTRONG because this would result in a coated substrate with high resistance to corrosion.

#### *Response to Arguments*

4. Applicant's arguments filed March 24, 2005 have been fully considered but they are not persuasive in view of new grounds of rejection as set forth in the above paragraphs.

#### *Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mohr (US 6,176,702 B1) discloses that it is well known, a fuel-rich or fuel-lean combustion zone is less conducive to NO<sub>x</sub> formation than an air-fuel ratio closer to stoichiometry (col. 1, lines 40-45).



6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kishor Mayekar whose telephone number is (571) 272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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